WHAT IS CLAIMED IS:

1. Chemokine peptide 3, a variant, or a derivative thereof.

2. Chemokine peptide 2, a variant, or a derivative thereof.

3. The peptide of claim 1 wherein the chemokine is not IL8 or NAP-2.

4. The peptide of claim 1 which is a variant of peptide 3[MCP-1].

5. The peptide of claim 4 which is leu_4ile_{11}peptide 3(3-12)[MCP-1].

6. The peptide of claim 1 or 2 which is a CC chemokine.

7. The peptide of claim 6 wherein the CC chemokine is MCP-1, RANTES, MCP-2, MCP-3, MCP-4, eotaxin, MIP1α, MIP1β, LARC, I309, HCC-1, TARC or Ckβ8.

8. The peptide of claim 1 or 2 which is a CXC chemokine.

9. The peptide of claim 8 wherein the CXC chemokine is IP-10, PF-4, SDF-1, NAP-2, GROα, GROβ, GROγ or ENA78.

10. The peptide of claim 8 wherein the CXC chemokine is IL-8, IP-10, SDF-1, PF-4, NAP-2, GROα, GROβ, GROγ, NAP-2 or ENA78.

11. A CRD derivative of chemokine peptide 3 or a variant thereof.

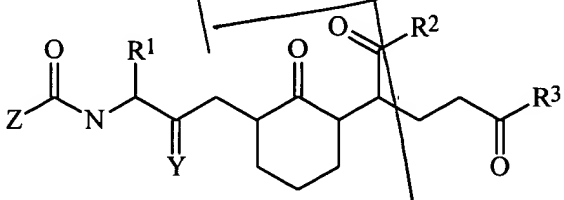
12. The derivative of claim 11 which is CRD-$Cys_{13}leu_4ile_{11}$peptide 3(3-12)[MCP-1].

13. A CRD derivative of chemokine peptide 2 or a variant thereof.

14. An isolated and purified nucleic acid molecule comprising a preselected nucleic acid segment encoding the peptide of claim 1 or 2.

15. An isolated and purified nucleic acid molecule comprising a preselected nucleic acid segment which is the complement of the nucleic acid segment of claim 14.

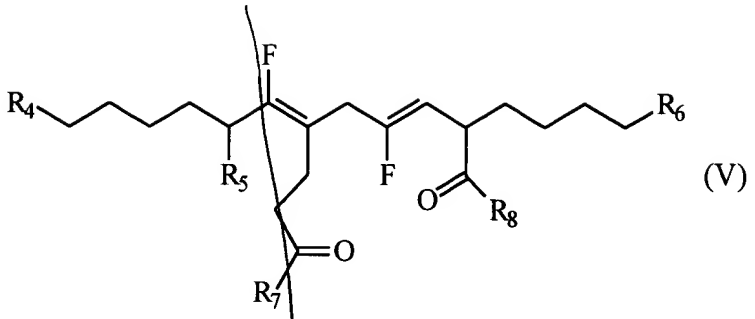
16. A compound of formula (IV):



(IV)

wherein R^1 is aryl, heteroaryl, coumaryl or chromanyl; wherein R^2 is $N(R^a)(R^b)$; wherein R^3 is $N(R^c)(R^d)$; wherein Y is oxo or thioxo; wherein Z is $(C_1\text{-}C_{10})$alkyl; wherein R^a-R^d are each independently hydrogen, $(C_1\text{-}C_{10})$alkyl, $(C_1\text{-}C_{10})$alkanoyl, phenyl, benzyl or phenethyl; or wherein R^a and R^b, or R^c and R^d, together with the nitrogen to which they are attached form a pyrrolidino, piperidino or morpholino ring; or a pharmaceutically acceptable salt thereof.

17. A compound of formula (V):



(V)

wherein R^4 is NR_kR_l; wherein R^5 is NR_mR_n; wherein R^6 is NR_oR_p; wherein R^7 is NR_qR_r; wherein R^8 is hydrogen, hydroxy, (C_1-C_{10})alkyl, (C_3-C_6)cycloalkyl, (C_3-C_6)cycloalkyl(C_1-C_6)alkyl, (C_1-C_{10})alkoxy, (C_3-C_6)cycloalkyl(C_1-C_6)alkoxy, NR_sR_t, the N-terminal residue of an amino acid or a peptide of 2 to about 25 amino acid residues; wherein R_k, R_l, R_o, and R_p are each hydrogen; wherein R_m are R_n are each independently hydrogen, acetyl, (C_1-C_{10})alkyl, (C_3-C_6)cycloalkyl, propoxy, butoxy, *tert*-butoxycarbonyl, 9-fluorenylmethoxycarbonyl, the C-terminal residue of an amino acid or a peptide of 2 to about 25 amino acid residues; wherein R_q and R_r are each independently hydrogen, (C_1-C_{10})alkyl, or (C_3-C_6)cycloalkyl; and wherein R_s are R_t are each independently hydrogen, (C_1-C_{10})alkyl, (C_3-C_6)cycloalkyl, (C_3-C_6)cycloalkyl(C_1-C_6)alkyl, phenyl, benzyl, or phenethyl; or a pharmaceutically acceptable salt thereof.

18. A method of preventing or inhibiting an indication associated with a chemokine-induced activity, comprising: administering to a mammal afflicted with, or at risk of, the indication an amount of a chemokine peptide 3, a variant thereof, a derivative thereof, or a combination thereof, effective to prevent or inhibit said activity, wherein the chemokine is not IL8 or NAP-2.

19. A method to inhibit the activity of more than one chemokine, comprising: administering to a mammal in need thereof an effective amount of a chemokine peptide 3, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof.

20. A method to increase or enhance a chemokine-associated inflammatory response in a mammal, comprising: administering to the mammal an amount of a chemokine peptide 2, a variant thereof, a derivative thereof, or a combination thereof effective to increase or enhance said response.

21. A method of preventing or inhibiting an indication associated with monocyte or macrophage recruitment, comprising: administering to a mammal at risk of, or afflicted with, the indication an effective amount of a chemokine peptide 3, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof.

22. A method of preventing or inhibiting an indication associated with histamine release from basophils or mast cells, comprising administering to a mammal at risk of, or afflicted with, the indication an effective amount of a chemokine peptide 3, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof.

23. A method to modulate the chemokine-induced activity of a macrophage at a preselected physiological site, comprising: administering to a mammal a dosage form comprising an effective amount of a chemokine peptide 3, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof, wherein the dosage form is linked to a site targeting moiety.

24. A method to augment an immune response, comprising: administering to a mammal an immunogenic moiety and an amount of a chemokine peptide 2, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof, wherein the amount is effective to augment the immune response of the mammal to the immunogenic moiety.

25. A therapeutic method to prevent or treat a vascular indication, comprising: administering to a mammal in need of such therapy an effective amount of a chemokine peptide 3, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof, wherein the indication is coronary artery disease, myocardial infarction, unstable angina pectoris, atherosclerosis or vasculitis.

26. A therapeutic method to prevent or inhibit lentiviral infection or replication, comprising: administering to a mammal in need of such therapy an effective amount of a chemokine peptide 2, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof.

27. The method of claim 26 wherein the lentivirus is HIV.

28. The method of claim 27 further comprising administering an antiviral agent before, during and/ or after the administration of the peptide, a variant thereof, derivative thereof, the compound of formula (IV) or the compound of formula (V).

29. A therapeutic method to prevent or treat low bone mineral density, comprising: administering to a mammal in need of such therapy an effective

amount of a chemokine peptide 3, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof.

30. A method of inhibiting a parasitic infection in a vertebrate animal, comprising: administering to the animal an effective amount of a chemokine peptide 2, a variant thereof, a derivative thereof, or a combination thereof.

31. The method of claim 30 wherein the animal is a human with malaria.

32. A therapeutic method to prevent or treat an autoimmune disease, comprising: administering to a mammal in need of such therapy an effective amount of a chemokine peptide 3, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof.

33. A method of suppressing tumor growth in a vertebrate animal, comprising: administering to said vertebrate an effective amount of a chemokine peptide 3, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof.

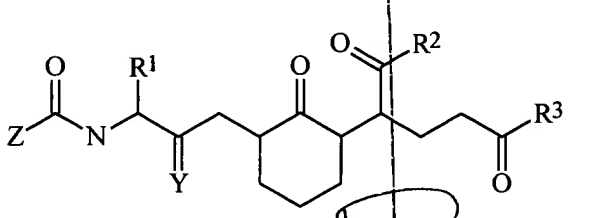
34. A method for preventing or treating psoriasis in a mammal, comprising: administering to the mammal an effective amount of a chemokine peptide 3, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof.

35. A method to increase or enhance macrophage-associated activity at a tumor site, comprising: administering an effective amount of a chemokine peptide

3, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof.

36. A method to enhance wound healing, comprising: administering an effective amount of a chemokine peptide 3, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof.

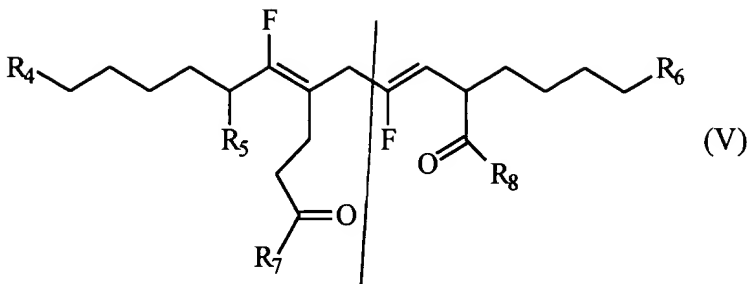
37. A method of treating a mammal afflicted with, or at risk of, an indication associated with chemokine-induced activity, comprising: administering to the mammal an effective amount of a compound of formula (IV):



(IV)

wherein R^1 is aryl, heteroaryl, coumaryl or chromanyl; wherein R^2 is $N(R^a)(R^b)$; wherein R^3 is $N(R^c)(R^d)$; wherein Y is oxo or thioxo; wherein Z is $(C_1\text{-}C_{10})$alkyl; wherein R^a-R^d are each independently hydrogen, $(C_1\text{-}C_{10})$alkyl, $(C_1\text{-}C_{10})$alkanoyl, phenyl, benzyl or phenethyl; or wherein R^a and R^b, or R^c and R^d, together with the nitrogen to which they are attached form a pyrrolidino, piperidino or morpholino ring; or a pharmaceutically acceptable salt thereof.

38. A method of treating a mammal afflicted with, or at risk of, an indication associated with chemokine-induced activity, comprising: administering to the mammal an effective amount of a compound of formula (V):



(V)

wherein R^4 is NR_kR_l; wherein R^5 is NR_mR_n; wherein R^6 is NR_oR_p; wherein R^7 is NR_qR_r; wherein R^8 is hydrogen, hydroxy, (C_1-C_{10})alkyl, (C_3-C_6)cycloalkyl, (C_3-C_6)cycloalkyl(C_1-C_6)alkyl, (C_1-C_{10})alkoxy, (C_3-C_6)cycloalkyl(C_1-C_6)alkoxy, NR_sR_t, the N-terminal residue of an amino acid or a peptide of 2 to about 25 amino acid residues; wherein R_k, R_l, R_o, and R_p are each hydrogen; wherein R_m are R_n are each independently hydrogen, acetyl, (C_1-C_{10})alkyl, (C_3-C_6)cycloalkyl, propoxy, butoxy, *tert*-butoxycarbonyl, 9-fluorenylmethoxycarbonyl or the C-terminal residue of an amino acid or a peptide of 2 to about 25 amino acid residues; wherein R_q and R_r are each independently hydrogen, (C_1-C_{10})alkyl, or (C_3-C_6)cycloalkyl; and wherein R_s are R_t are each independently hydrogen, (C_1-C_{10})alkyl, (C_3-C_6)cycloalkyl, (C_3-C_6)cycloalkyl(C_1-C_6)alkyl, phenyl, benzyl, or phenethyl; or a pharmaceutically acceptable salt thereof.

39. An immunogenic composition comprising an immunogenic moiety and an amount of a chemokine peptide 2, a variant thereof, a derivative thereof, a compound of formula (IV), a compound of formula (V), or a combination thereof.

40. A method of preventing or inhibiting an indication associated with a chemokine-induced activity, comprising: administering to a mammal

afflicted with, or at risk of, the indication an amount of the nucleic acid molecule of claim 14 effective to prevent or inhibit said activity.

41. A method of preventing ~~or inhibiting~~ an indication associated with a chemokine-induced activity~~, comprising~~: administering to a mammal afflicted with, or at risk of, the indication an amount of the nucleic acid molecule of claim 15 effective to prevent or inhibit said activity.

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